EVALUATION OF DUTY FOOTWEAR FOR THE EAU CLAIRE FIRE DEPARTMENT

FINANCIAL MANAGEMENT

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ABSTRACT

The Eau Claire Fire Department has had a mandated safety-toe policy for years. However, there is no city or department policy that has ever existed and there is no recall why this mandate was implemented. The purpose of this research project was to evaluate the safety-toe shoe program for the Eau Claire Fire Department.

This study used a descriptive research methodology, supported by an interview with the City of Eau Claire Human Resource Director and an Occupational Safety Inspector. A phone survey of 30 paid professional fire departments that require firefighters to wear duty uniform shoes was used. A hazard assessment was also performed to better understand the potential hazards associated with normal non-emergency duties. The following research questions were addressed:

1. To what fire department standards relating to footwear protection must the Eau Claire Fire Department adhere?
2. What types of duty shoes do other Wisconsin fire departments require?
3. To what potential foot injuries are Eau Claire firefighters susceptible?

As a result of this research, one will be able to better understand a need for foot protection in hazardous situations. A literature review of footwear standards, policies, foot hazard exposures, and foot protection strategies was identified.

The results of the research identified that 80 percent of the fire departments surveyed do not

require their employees to wear safety-toe shoes during normal duty activities. This research offers several recommendations to enhance the duty footwear program for the Eau Claire Fire Department. Included in these recommendations are a commitment by management and labor to develop a duty footwear program with a time table for implementation; department-wide training for footwear fitting, exposure, and maintenance; development of financial strategies for maintaining uniformity, safety, and control; the purchase of alternative foot protection equipment; and implementation of quarterly footwear inspections department wide.

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INTRODUCTION

According to the National Safety Council, about 180,000 workers in the United States suffer disabling foot and toe injuries every year (Cravens, 1998). Thousands of these workers experience foot injuries from falling objects, moving machinery, sharp instruments, electrical contacts, abrasives and many other circumstances (Cravens, 1998).

In the event of an emergency situation, the fire service has developed standards addressing the need for foot protection at these incidents and other emergency situations that warrant complete firefighter protection. National Fire Protection Association (NFPA) Standard 1971 addresses the proper protective footwear used at emergency situations. The Eau Claire Fire Department requires all its employees to use issued protective footwear during emergencies (Eau Claire Fire Department, 1996).

For over 20 years, the Eau Claire Fire Department has required that its employees use safety-toe duty uniform shoes during normal daily activities. The need of these safety-toe duty shoes has never been analyzed and assessed to see if they are actually needed for normal activities. Even though the State of Wisconsin is not an Occupational Safety and Health Association (OSHA) state, OSHA 1910.132 (d)(1) requires that employees "assess the workplace to determine if hazards are present, or likely to be present, which necessitate the use of personal protective equipment" (Minter, 1998). The Eau Claire Fire Department must assess the hazards during normal activities performed on a daily basis and determine the appropriate footwear. The purpose of this research was to evaluate the safety-toe duty shoe program for the Eau Claire Fire Department. A descriptive research methodology was used,

supported by an interview with the City of Eau Claire Human Resource Director and an Occupational Safety Inspector. A phone survey of 30 Wisconsin paid professional fire departments that require firefighters to have duty uniform shoes was used. A hazard assessment was also performed to better understand the potential hazards associated with normal non-emergency duties to answer the following questions:

1. To what fire department standards relating to footwear protection must the Eau Claire Fire Department adhere?
2. What types of duty shoes do other Wisconsin fire departments require?
3. To what potential foot injuries are Eau Claire Firefighters susceptible?

BACKGROUND AND SIGNIFICANCE

The City of Eau Claire, population 61,872, is located in West Central Wisconsin. The municipal career fire department protects approximately 31.90 square miles. Included in the mutual-aid agreements that Eau Claire holds are 10 additional area fire departments, serving an estimated 1100 square miles and an additional 69,000 citizens. Annually, the Eau Claire Fire Department responds to an average of 4,200 emergency responses (City of Eau Claire, 1997). The City of Eau Claire Fire Department employs 76 line personnel, 8 chief officers (1-Chief; 1-Assistant Chief; 2-Deputy Chiefs; 4-Battalion Chiefs), and 2 administrative assistants. All the department personnel except the chief and the

two administrative assistants are required to wear protective safety-toe footwear for daily station wear.

As long as anyone can remember, Eau Claire firefighters have been wearing safety-toe shoes as part of their daily uniform. It is unknown if this unwritten policy was implemented by reacting to a single injury or if this requirement was actually researched. The majority of fire departments throughout the state of Wisconsin do not require safety-toe shoes to be used by their firefighters during daily duties. One must research if there are different hazard exposures associated with firefighters at other fire departments, or if some fire departments are more safety conscious for their employees.

This research is significant to the fire service for several reasons. The first is to provide information to fire departments so compliance toward existing standards will occur. The second reason is the financial rewards to the fire department organization and to the municipality. If fire departments have not identified a hazard assessment for footwear, disciplinary actions may occur from OSHA or by state regulatory agencies. Municipal insurance companies may also increase rates if measurement efforts are not taken to identify hazardous areas of operations. The final reason is, if a hazard assessment determined no need for protective footwear, a lower cost for duty shoe purchases would occur, thus reducing overall costs.

Failure to use foot protection or selecting footwear that only protects against one or two hazards may expose employees to the risk of foot and toe injuries (Keller, 1997). Lost financial costs for the employer may occur from employees' lost work days, decreased productivity, an increase in workers compensation costs, and fees associated with lawsuits (Keller, 1997). The current practice for the City of Eau Claire Fire Department is to purchase safety-toe shoes every two years. Sixty-eight

dollars is allotted to each firefighter for the purchase of a pair of required shoes.

The results of this study identify the need to conduct a hazard assessment and to determine the daily foot protection needed for Eau Claire firefighters. The responsibility of the Eau Claire Fire Department in providing adequate safety programs is to reduce or eliminate the possibility of firefighter injury, which increases as the department becomes more diverse in activities.

This research paper was developed to satisfy the Executive Fire Officer Program applied research requirement associated with Fire Service Financial Management course at the National Fire Academy. This research related to Unit VI - Analysis of the course by addressing benefit-cost analysis. Innovative research and compliance with OSHA and other requirements for foot protection will determine the best safety measures for Eau Claire Fire Department personnel.

LITERATURE REVIEW

The literature review will be utilized to examine the potential toe and foot exposures associated with non-emergency duties within the firefighters' workplace. An overview of standards and policy, foot hazard analysis, and foot protection strategies will be researched.

FOOT PROTECTION STANDARDS

There are numerous standards the Eau Claire Fire Department follows to adhere to employee foot protection: OSHA (Occupational Safety and Health Administration) 29 CFR 1910.132, 29 CFR 1910.136; ANSI (American National Standards Institute) Z41-1991; and Wisconsin Administrative Code - ILHR 30.

The current OSHA 29 CFR 1910.132 general requirement explains that the employer must provide protective equipment for feet and the equipment must be properly maintained. This standard also requires hazard-specific protective equipment and employee training in its use, limitations, maintenance, and disposal (LaBar, 1997). OSHA 1910.132 requires employers to conduct hazard assessments (Wortham, 1997). Employers must assess their employee needs to determine the most appropriate protective gear for each job (Johnson, 1998). Employers also must stipulate that protective equipment must be worn at all times the employee is exposed to the hazard (Johnson, 1998).

To comply, each employer must prepare a written certification of hazard assessment, which at a minimum contains the following information (Iron Age-OSHA, 1999):

1. Location of the workplace evaluated.
2. Details of the hazards assessed.
3. The person certifying the evaluation.
4. Dates of the hazard assessments.

The OSHA regulations include a suggested four-step procedure which will be effective in conducting a foot protection hazard assessment (Iron Age-OSHA, 1999):

1. Perform an initial walk-through survey of the work site in order to identify potential sources of hazards, including impact and compression injuries to the toes, penetration injuries to the bottom of the foot, metatarsal injuries, electrical hazard or electrical shock injuries.

2. Record each source of potential foot injury.

3. Review the data for each basic category of foot injury to determine

   - Type and level of risk.
   - Seriousness of injury.
   - Simultaneous multiple exposures to risk (e.g. electrical hazard and metatarsal protection).

4. Perform periodic assessments of workplace hazards, including identification of new equipment and processes, a review of accident records and a re-evaluation of current personal protective equipment.

OSHA's foot protection standard, 29 CFR 1910.136(a), requires protective footwear to be used by employees who are working in areas where there is a danger of foot injuries due to falling or rolling objects, or objects piercing the sole, and where such employees feet are exposed to electrical hazards (Minter, 1998). Protective footwear must comply with ANSI Z41-1991 (Minter, 1998).

The ANSI (American National Standards Institute) Z41-1991 breaks footwear down into six categories of foot protection (Minter, 1998):

1. *Impact and Compression Resistance* - Uses steel or non-metallic toe cap to

protect against falling objects or crushing from heavy rolling objects.

2. *Metatarsal Footwear* - Provides similar protection against falling objects to the area of the foot between the ankle and the toes.

3. *Electrical Hazard* - Where the sole of the shoe or boot is designed to protect workers from electrical shock from 600 volts or less, under dry conditions.

4. *Conductive Footwear* - Which prevents the build-up of static electricity.

5. *Puncture Resistance* - Where the sole resists penetration from sharp objects, nails, or broken glass.

6. *Static Dissipative* - Which reduces the build-up of static electricity.

The common protective duty safety-toe shoe firefighters wear is classified as Z41 PT91 I/75 C/75. The letters "PT" signify the protective section of the standard. The two additional digits following "PT" shall be used to designate the year of the standard. Table 1 identifies minimum requirements for impact, compression, and clearance ratings (ANSI, 1991).

Table 1

IMPACT

I/75 = 75 ft. lbf (101.7J)
I/50 = 50 ft. lbf (67.8J)
I/30 = 30 ft. lbf (40.7J)

COMPRESSION

C/75 = 2500 lb (11,121N)
C/50 = 1750 lb (7,784N)
C/30 = 1000 lb (4,448N)

CLEARANCE (ALL CLASSIFICATIONS)

Men - 16/32 in (12.7 mm)
Women - 15/32 in (11.9 mm)

Specific ratings are also attributed to safety shoes for impact resistance. I/75 shoes can endure an impact up to 75 foot pounds. C/75 safety shoes support 2500 pounds of pressure (Cravens, 1998).

The Department of Industry, Labor, and Human Relations (ILHR) addresses footwear protection in the State of Wisconsin. Under Wisconsin Administrative Code, Chapter 30, which addresses fire department safety and health standards, subchapter VIII, ILHR 30.11 (2)(d), addresses footwear concerns; 30.11(2)(d) requires footwear that meets the standards specified in NFPA 1971 (Wisconsin, 1995).

NFPA (National Fire Protection Association) 1971, 3-4, protective footwear standard references the use of protective footwear be used consistent with 29 CFR 1910.132, general requirements of subpart I, personal protective equipment (NFPA, 1997).

Scott Amacher, an Occupational Safety Inspector for the State of Wisconsin, was contacted for his interpretation of several questions. The first question asked to Mr. Amacher was, *being that Wisconsin is not an OSHA state, what mandates fire departments to provide protective footwear for their employees?* Mr. Amacher stated that fire departments in the State of Wisconsin are regulated under IHLR 30. Municipalities are regulated under the Wisconsin Department of Commerce 32. Fire departments belong to the municipality under Commerce 32, which must follow standards under OSHA 29 CFR 1910.132 and 1910.136.

The second question asked to Mr. Amacher was, *if a fire department does not require its firefighters to wear protective footwear for normal daily duties, is the fire department subject to*

an OSHA violation? Mr. Amacher stated that, if the fire department conducted a hazard assessment, and the fire department has identified areas of concern for foot protection, the fire department would not be cited.

The final question asked to Mr. Amacher was, *what are considered normal duties for an employee and how much exposure time to an environment is considered at risk for the employee?*

Mr. Amacher stated that if a hazard assessment was conducted and the exposure was made aware to the employee, the employer has the right to make the decision on what constitutes personal protective protection. Once the employee leaves the fire station but is still in a work environment, the employers shall provide personal protection to the employee (hard hats, eye glasses, reflective vests, etc.).

The Department of Labor in all 50 states subsequently adopted the new OSHA 1910 regulations, 29 CFR Part 1910, Personal Protective Equipment for General Industry, which includes the ANSI Z41-1991 referenced standards (Iron Age-ANSI, 1999).

EAU CLAIRE FIRE DEPARTMENT POLICY

There are several policies that govern Eau Claire Fire Department personnel: Local 487 contract agreement, the Eau Claire Fire Department standard operating guideline manual, and the City of Eau Claire's health and safety manual.

The contractual agreement between the City of Eau Claire and Eau Claire Firefighters, Local 487, Article XXV - Safety, identifies two sections of compliance. Section one requires "the city shall

furnish proper safety devices for all work and employees shall use and/or wear safety equipment furnished by the city" (Eau Claire Firefighters, 1998). Section two mentions that "all employees shall comply with the employer's safety rules and regulations" (Eau Claire Firefighters, 1998).

Referring to the City of Eau Claire's health and safety manual employee summary, the personal protective equipment section, item six targets work shoes. *Approved work shoes shall be interpreted to mean hard-soled oxford or work type shoes. To meet these guidelines, shoes must be designed for the use in the working environment in which they are being worn. Hard-sole is interpreted to mean a sole that is made of hard leather or man-made materials that are resistant to puncture and absorption of oil and other substances. In case of dispute, the joint safety team shall be the final deciding authority* (Eau Claire Health & Safety Manual, 1991).

Dale Peters, Human Resource Director for the City of Eau Claire, was questioned on his views of policies governing city-issued safety-toe shoes. The first question asked was, *when did the City of Eau Claire implement the safety-toe shoe requirement for firefighters during normal daily duties?* Mr. Peters stated that he did not know. Fire department policy and procedures, dating back to the year 1945, have not identified a requirement for protective footwear. It appears that the safety-toe shoes may have been implemented on a reactionary measure, stated Mr. Peters.

The second question asked to Mr. Peters was, *are there any other city departments that are required to wear safety-toe shoes?* The answer was no. City workers (building inspectors, surveyors, clerical staff, managers, street workers, police officers, and heavy machinery operators) in areas that have potential foot exposures are advised to use protective footwear. A financial incentive is given to the employee to encourage protective footwear but not the full purchase allowance.

The final question that was asked to Mr. Peters was, *if a hazard assessment was conducted targeting normal non-emergency activities, and the assessment showed there was no or limited need for safety-toe footwear, would employees be able to wear any approved footwear?* Mr. Peters stated that if a hazard assessment was conducted and if department administration felt that non safety-toe footwear was adequate for the employee, it may be possible for the change.

FOOT HAZARD EXPOSURES

Firefighters are exposed to many different hazards that constitute foot injuries. Normal non-emergency activities, fire public education, maintenance of vehicles, classroom training, fire inspections, and general office duties may pose possible exposures to affect firefighters' feet. It is important to consider the kinds of operations within the facility, the process being used, the tasks being performed, environmental conditions, and the nature of any chemicals in use (Minter, 1998). Feet are subject to many kinds of skin disease, cuts, punctures, burns, sprains, and fractures (Cravens, 1998). Sharp or heavy objects falling on the foot are the primary source of injury (Keller, 1997).

Before any organization selects personal protective equipment, the organization must ask themselves (Minter, 1998): Why are we protecting our employees? What are we protecting our employees from? Why are employees exposed to that environment? When employees are exposed to more than one of the following hazards, employees should have proper safety footwear (Keller, 1997):

1. *Compression* - The foot or toe is squeezed or rolled over.

2. *Puncture* - A sharp object like a nail breaks through the sole.

3. *Electrical* - A hazard in jobs where workers use power tools or electric equipment.

4. *Slip and Fall* - Contact with surface hazards like oil, water, or chemicals.

5. *Chemicals* - Chemicals or solvents corrode ordinary safety shoes and harm the feet.

6. *Heat and Cold* - Insulation or ventilation is required depending on the extreme climate.

7. *Wetness* - Hazards may be slipping, discomfort, and even fungal infections.

8. *Soreness* - Workers stand/walk on hard pavement or floors for long periods of time causing pain and discomfort. Soreness could also be caused by wearing improperly fitted shoes.

Improper footwear can lead to health problems other than injuries. Among these are lower back pain, muscle fatigue, varicose veins, locked joints, swelling in the legs, and rheumatic diseases (Cravens, 1998). As stipulated by OSHA, a hazard assessment must be completed by the employer. The hazard assessment must document that the assessment was completed. This written certification includes the identity of the workplace evaluated, the name of the person who performed the evaluation,

and the date(s) of the hazard assessment (Minter, 1998). Refer to Appendix A for the City of Eau Claire Fire Department hazard assessment form and the foot protection assessment form and assessment results.

FOOT PROTECTION STRATEGIES

Severe foot injuries can be avoided with planning and the proper equipment (Cravens, 1998). It is vital to select the proper protective footwear and thereby reduce exposures to hazards that may lead to a foot or toe injury (Cravens, 1998). There are a few things workers can check to be sure the shoes are safe and comfortable (Keller, 1997):

1. Do the shoes fit both feet comfortably?
2. Is there room between the tip of the longest toe and the shoe?
3. Can I wiggle my toes freely?
4. Does the shoe have flexible upper surfaces that stretch and smooth areas inside so that the shoe is easier to slip on?
5. Does the shoe have built-in cushioning?
6. Does the shoe come in leather so that the shoes breathe?
7. Will the shoe adequately protect my feet from the hazards of my job?
8. Does the shoe meet ANSI Z41-1991?

It is always recommended that the hazard be eliminated or reduced from the working environment, but this cannot be achieved 100 percent of the time. Good work practices can minimize

the risks even in the most dangerous situations (LaBar, 1997). If the environment still exhibits harm to the employee, safety footwear must be provided. The following are different types of safety footwear (Keller, 1997):

1. *Safety Shoes* - Made of steel, reinforced plastic, or hard rubber. Good for general industry work.
2. *Safety Boots* - Made of rubber/plastic to protect against oil, water, and chemicals. Can have steel toes, puncture-resistant insoles, and metatarsal guards. Some are pulled over regular safety shoes.
3. *Puncture-resistant soles*- Protect against hazards of stepping on sharp objects that break through regular shoe soles. Good for construction workers.
4. *Metatarsal guards* - Protect the upper foot from impacts. Metal guards extend over the foot rather than just over the toes.
5. *Add-on foot protection* - Attach guards, covers, steel inserts, cleats, or wooden strap-on sandals to shoes for greater protection.
6. *Conductive shoes* - Let static electricity drain off the worker harmlessly. Keep electrostatic discharge from igniting sensitive explosive mixtures. Made with rubber/cork heels, no exposed metal parts, and a calf-to-heel conductor. Do not use these shoes

for work near open electrical circuits.

7. *Electrical hazard - shoes* Protect against shock hazards from contact with open circuits of 600 volts or less under dry conditions.

Used for work on live or potentially live electrical circuits.

Made with an insulated toebox so there is no exposed metal.

A common misconception is that safety shoes with steel-toes are uncomfortable (Minter, 1998). Steel-toe shoes are completely surrounded by padding and, if the steel-toe shoe is properly fitted, an employee can not tell the difference (Minter, 1998). Any work shoe must be properly fitted. To improve comfort, the following four fitting tips are offered (Minter, 1998):

1. Measure both feet. Employees' feet size may differ. Measure from toe to heel, the ball of the foot to the heel, then the width. Try both shoes on and walk around.
2. Try shoes on in the afternoon. Feet tend to swell and expand. If sensitive areas exist with the employees' feet, they will hurt when trying on the shoe.
3. Wear a normal work sock. If the employee wears a thicker or thinner sock at the time of selection, it could result in a choice of shoe that is too small or too big.
4. Rotate between old and new shoes. Waiting until your shoes are totally worn out is not preferred. Rotate between new and old for comfort and longer use.

As one looks at safety shoes, steel insoles must also be viewed. For those workers in construction areas or other locations where there is a danger of stepping on sharp objects, metal insoles

can provide increased protection (Cravens, 1998). Slip-resistant shoes also benefit the employee. Slipping and falling are major concerns at many workplaces (Minter, 1998). Friction is created by the combined properties of two interfacing materials, and proper shoe soles play an important role in preventing slips (Cravens, 1998). Slip and oil-resistant safety footwear may be required for environments, but employees will not be totally protected until the work area is cleaned up (LaBar, 1997). A common mistake concerning footwear is to equate the rugged grip of a hiking-style boot with slip resistance; however, on smooth floors, those kinds of boots are exceedingly slippery (Minter, 1998). Athletic-type shoes which have a good grip on a clean, dry surface may offer little slip-resistance on a floor covered with a foreign matter, because of the hard rubber sole (Minter, 1998).

No matter which type of footwear is chosen for employees, it is important to make sure it is properly maintained (Wortham, 1997). Training employees on the limitations of the workshoe and getting them in the habit of inspecting their boots before wearing them will only benefit both the employee and the organization. Always follow manufacturers' instructions on how to clean the footwear after each use (Wortham, 1997).

To ensure that each employee is knowledgeable in regards to foot protection, the employer must look at the following areas (Iron Age-OSHA, 1999):

1. When is protective footwear necessary?
2. What protective footwear is necessary?
3. How to properly fit, adjust, and wear protective footwear!
4. The limitations of protective footwear!
5. The proper care, maintenance and disposal of protective footwear!

According to OSHA regulations, each employee must demonstrate an understanding of these points before being allowed to perform work in those work areas where specific workplace hazards exist (Iron Age-OSHA, 1999). Foot-related injuries remain widespread and costly, and close attention to a safety footwear program can offer a generous return in improved safety and productivity (Minter, 1998).

Besides wearing proper footwear, there are other ways to prevent foot discomfort (Cravens, 1998):

1. Shoe cushions provide comfort and reduce pain in the back, feet, and legs. Larger shoe sizes may be required to fit the cushions correctly.
2. Anti-fatigue mats reduce muscle fatigue, particularly on concrete.
3. Foot rests reduce back pressure, because the lower back curves when we raise our feet approximately five inches.
4. Lean chairs lessen muscle fatigue and allow relief from prolonged standing.

PROCEDURES

Definition of Terms

Comfortable - Affording or enjoying physical comfort.

Compression - When the foot or toe is rolled over or pinched.

Exposure - The condition or an unwanted instance of being exposed, where one is not shielded or protected.

Footwear - Wearing apparel (as shoes or boots) for the feet.

Hazard - A source of danger.

Impact - To strike forcefully, a forceful contact, collision or onset.

Metatarsal - Bones in the upper foot.

Equipment (PPE) - Footwear, eye protection, hearing protection, and clothing that provides protection from hazards or exposures.

Safety-Toe - A shoe with steel, reinforced plastic or other material that provides added protection to the toe.

Standard - Something set up and established by an authority as a rule for the measure of quantity, weight, extent, value, or quality.

Research Methodology

The desired outcome of this research was to evaluate the duty footwear for the Eau Claire Fire Department in non-emergency activities. The research was descriptive in that a literary review was conducted to gather information about foot protection. Information was gathered on standards that are required for employee protection. Two separate interviews were conducted with two individuals representing standard enforcement and city policy administration. These interviews were conducted on June 1, 1999 and May 25, 1999, respectfully. A phone survey was conducted to help answer the

research questions (Appendix B). The survey was given to 30 Wisconsin Fire Departments that employed firefighters who are totally paid professionals. Chief officers were contacted at each fire department to answer the survey questions. The phone survey was conducted on June 2, 1999, and was completed June 4, 1999. The results of the phone survey appear in Appendix C of this report. A hazard assessment was also conducted for non-emergency duty operations. The hazard assessment results appear in Appendix A of this report.

Research Limitations

The results from the phone survey do not represent the entire United States fire service. Of the 30 Wisconsin larger paid professional fire departments contacted, the knowledge of the chief officers varied in consistent reliability. Most chief officers answered the questions thoroughly but some answered questions without data to back-up their answers. The interview of Scott Amacher asked for his interpretation of compliance. His views may differ from other advisors throughout the state and the nation.

The results from the hazard assessment taken on the Eau Claire Fire Department does not represent all foot exposures throughout all the fire departments in the United States. It would be very difficult to assess all potential exposures that firefighters encounter on a non-emergency basis and the amount of time exposed to those hazards. The literature review was based on industrial exposures and experiences. Through a comprehensive research, it was discovered that no fire service documentation, articles, or EFO (Executive Fire Officer) research papers have been written on duty footwear

protection. Numerous sources have been published, documented, and written pertaining to emergency footwear protection but no such information exists for non-emergency footwear protection.

RESULTS

The literature review evaluated footwear protection and analysis throughout general industry, adopting that information to the fire service. Within the questionnaire (Appendix B), fire departments were asked specific questions detailing their daily duty footwear program. Appendix C identifies the accumulated results gathered from the respondents.

Answers to Research Questions

Research Question 1.- To what fire department standards relating to footwear protection must the Eau Claire Fire Department adhere?

There are four standards that the Eau Claire Fire Department follows. OSHA 29 CFR 1910.132 (General requirements for personal protective equipment), OSHA 29 CFR 1910.136 (Foot protection), ANSI Z41-1991 (Footwear standard), and Wisconsin Administrative Code-IHLR 30 (Fire department safety and health standards).

There are two additional standards that are under the direction of the Wisconsin Administrative Code-ILHR 30, NFPA 1971 (Personal protective equipment) and Wisconsin Department of

Commerce 32 (Public employee safety and health).

Research Question 2.- What types of duty shoes do other Wisconsin fire departments require?

A phone survey (Questionnaire) was used to identify how many Wisconsin paid professional fire departments require safety-toe shoes for their firefighters. Thirty Wisconsin fire departments were surveyed, six fire departments (20 percent) required safety-toe shoes for their employees. Twenty-four fire departments (80 percent) required no safety-toe shoe, only a black type leather shoe.

Results of a question regarding appearance of the duty shoe indicated five fire departments requiring only plain-toe black shoes, fourteen fire departments required plain-toe, black, shinable shoes, and eleven fire departments required that the duty shoes be approved, plain-toe, black and shinable. Twenty-seven fire departments surveyed allowed personnel to mix shoe styles, oxfords and boots, differently, while three departments required the same shoe style to be worn by all personnel.

Twenty-five Wisconsin fire departments provide a clothing allowance to their employees, who in turn are responsible to purchase uniform wear including duty shoes. Four fire departments provide finances to their firefighters for duty shoes, while one department did not provide any support to provide duty shoes. Twenty-seven fire departments allow firefighters to purchase the duty shoes, two fire departments buy as a group, with one fire department allowing either method of purchase.

Research Question 3. - To what potential foot injuries are Eau Claire firefighters susceptible?

Each Eau Claire Fire Department station, its vehicles, and all commonly-used practices were assessed for foot injury exposures. The hazard assessment was conducted during June 21, 1999 through June 24, 1999. Appendix A identifies the completed hazard assessment for feet performed by the Eau Claire Fire Department.

The hazard assessments were broken down into three different groups: administration, which would include all chief officers; fire inspectors, to include the two fire inspectors; and line personnel, which would include all firefighters with the rank of captain, lieutenant, engineer, and firefighter. The hazard assessments were completed in respect to three work environments: office work, maintenance (to include such activities as station chores, vehicle checks, cleaning, and classroom training), and field work (to include fire inspections and public education).

Through the hazard assessment, numerous foot injury exposures were discovered. Lawn mowers, snow blowers, hose couplings, ventilation fans, wheel chocks, tool boxes, hand tools, extrication tools, special rescue equipment, vehicles, weights, and other heavy or sharp objects all contribute to foot injuries. Spilled chemicals, wet floors, worn soles, cracked or heaving floors, and weather conditions may cause slipping and falling injuries.

The phone survey discovered that without safety-toe shoes, only two toe-related injuries occurred over the past five years. One injury resulted when a hose coupling fell, striking a toe. There

was no time loss associated with this injury. The second toe injury occurred when a firefighter dropped a portable water pump on his toe. This incident resulted in nine lost work days. With safety-toe duty shoes, there were no reported toe injuries in the past five years.

DISCUSSION

The Eau Claire Fire Department has approached firefighter safety with great concern. Years ago, workplace injury was looked upon as part of doing business. Today, the Eau Claire Fire Department has realized that all aspects of firefighter safety are key components toward an efficient and effective operation. Legal, moral, and ethical obligations demand that the department be committed to a safer workplace.

The Eau Claire Fire Department presently has a safety-toe footwear program, but the requirement of safety-toe shoes may not be necessary for all positions within the organization. As the foot exposures were identified and the research verified duty shoe requirements, the Eau Claire Fire Department may look into allowing personnel to wear duty shoes without toe protection for certain tasks. Other tasks may require toe protection; personnel will then be educated and given personal protective equipment to mitigate the problem.

Through evaluating the survey, results became apparent that safety-toe duty shoes are not a common practice used by fire service organizations in Wisconsin. Eighty percent of those fire

departments surveyed did not require their employees to wear safety-toe shoes. It was surprising to discover that there were only two toe related injuries that had been reported, considering the daily activity levels and toe injury exposures of firefighters . The six largest fire departments in the state do not require safety-toe shoes.

Another surprising response from fire departments was that only six organizations require safety-toe shoes. Three departments of the six had standard operating guidelines pertaining to the use of the shoes; however, these SOGs did not specifically mention safety-toe shoes in the guidelines language. Four fire departments did require the safety-toe shoe to be ANSI Z41 PT91 I/75 C/75 approved. All six fire departments identified steel as the safety-toe construction material.

When asking fire departments what mandated them to use safety-toe shoes, they responded: required under NFPA 1500, as it is stated in OSHA and environmental standards, department wishes, tradition, and not sure. To confirm this knowledge or lack thereof , the question of what brought upon the safety-toe requirement was asked. Responses included tradition, unknown, reactionary management, always been that way, and because of the new chief. It should be noted that not one fire department surveyed identified or explained that a hazard assessment was required.

Fire departments throughout the state of Wisconsin have identified that 12 fire departments have completed a hazard assessment. Sixteen fire departments surveyed have not completed a hazard assessment, with two departments unsure if an assessment was completed. It is encouraging that 23 fire departments have looked at slip resistance as a safety need, with duty shoes to help reduce slip and fall injuries.

As the Eau Claire Fire Department explores the literature review studies, computerized safety

programs, hazard assessments, and the survey information from responding departments, an evaluation of a duty footwear program appears obtainable and practical. The program designed for the Eau Claire Fire Department must meet the specified department needs. A commitment to the successful development and operation of a duty footwear program must be not only department wide, but city wide. Administration to line personnel, everyone must be involved in delivering input to the success of an effective footwear program.

RECOMMENDATIONS

Recommendation #1

The Eau Claire Fire Department must instill a commitment toward a duty footwear program. The department must establish written policy and have a time line for the transition of this program. Joint safety team efforts between department administration and firefighter leadership must work together to obtain manageable goals for duty footwear.

Recommendation #2

The Eau Claire Fire Department must train all personnel on foot injury exposures. Personnel must be educated in the proper footwear for the environment, fitting procedures of the duty shoe, maintenance of the duty shoes, and other aspects of the duty footwear program. During the initial stages of the program development, shoe manufacturing representatives along with local vendors may offer

training to the firefighters and demonstrate particular footwear for future purchases.

Recommendation #3

After researching information pertaining to footwear protection, it is recommended that a duty shoe without safety-toe be utilized as the uniform shoe for all fire department personnel. During emergency operations, new construction inspection, and certain maintenance activities, protection to the toe must be initiated. If the employee chooses to continue to wear the safety-toe duty shoe, the choice will be honored by the department and the fire department will continue to develop its efforts as the program dictates.

Recommendation #4

Financial strategies must be developed. Currently, every two years, firefighters receive a pair of safety-toe duty shoes. It is recommended that the city continue to purchase duty footwear for the firefighters for three reasons: uniformity, safety, and control. This can be achieved through an exchange program. When the firefighters' shoes show wear, an exchange or trade-in for a new pair of duty shoes would occur. Firefighters who go through shoes before their two years would be able to receive a pair of duty shoes. If the firefighter does not need shoes for three years, the department is not out any mis-spent shoe money. The cost of this exchange program is unknown unless a trial period is performed.

Two styles of oxford shoes and two styles of boots would be available to the firefighters to ensure uniformity. Black, plain-toe, and shinable oxfords or boots would be allowed. Safety would be achieved through proper fitting of the shoes, education of footwear, an approved slip- resistant sole to prevent slips and falls, and shoe wear patterns inspections to prevent potential back injuries. Because

the city would purchase the daily duty shoes, the city would retain control through the determination of shoe specifications, styles, use, and restrictions.

Recommendation #5

It will be necessary to purchase 14 sets of toe guards (two sets at each station and one set for the fire inspectors) to protect firefighters from identified toe exposures while mowing, snow blowing, maintenance, and other situations that warrant immediate toe protection. Proper training on the use of the toe guards will make firefighters aware of situations and uses for this required device.

Recommendation #6

Conduct yearly hazard assessments of each position. Emergency and non-emergency duties by position must be identified, recorded, and distributed to inform the firefighters of the exposures associated with foot injuries.

Recommendation #7

Conduct quarterly shoe inspections associated with the fire departments' present personal protective equipment inspection, giving responsibility to the company officer to examine both duty footwear and emergency turn-out boots for wear patterns, appearance and comfort.

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APPENDIX A

City of Eau Claire

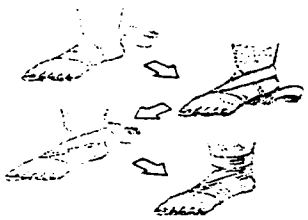
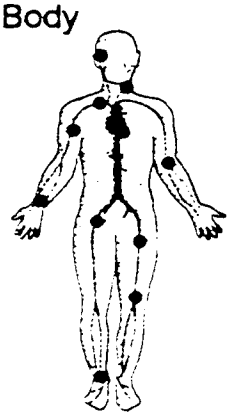
Personal Protective Equipment (PPE)
Hazard Assessment Survey and Analysis

Agency: Eau Claire Fire Department Location: All Stations
Job Classification: Administration Operation/Process: Office Work
Person performing assessment: Koerner Title: Deputy Chief

THE FOLLOWING HAZARDS HAVE BEEN NOTED

Part of Body	Hazard	Required PPE	Notes
Hands  See standard 1910.138	□ Penetration-sharp object □ Penetration-animal bites □ Chemical(s) _____ (Specify) _____ □ Extreme cold □ Heat □ Blood □ Electrical shock □ Vibration-power tools □ Other	□ Leather/cut resistant gloves □ Leather/cut resistant gloves □ Chemical resistant gloves □ Type _____ □ Insulated gloves □ Heat/flame resistant gloves □ Latex or Nitrile gloves □ Insulated rubber gloves □ Type_____ □ Anti-Vibration gloves □ Other	
Eyes and Face  See standard 1910.133	□ Impact-flying objects, chips, sand or dirt □ Nuisance dust □ UV light-welding, cutting, torch brazing or soldering □ Chemical-splashing liquid □ Chemical-irritating mists □ Hot sparks-grinding □ Splashing molten metal □ Other	□ Safety glasses w/side shields □ Glasses/goggles w/face " □ Impact goggle □ Welding goggles/helmet shield w/safety glasses & side shields □ Chemical goggles/face shield □ Chemical splash goggles □ Safety glasses w/side shields □ Glasses/goggles w/face " □ Safety goggles w/face shield □ Other	
Ears  See standard 1910.95	□ Exposure over 85 DBA □ Exposure to sparks □ Other _____	□ Muffs and/or ear plugs □ Leather welding hood □ Other _____	

NOTE: Administration = 1-Chief, 1- Assistant Chief, 2-Deputy Chiefs, 4-Battalion Chiefs, 2-Administrative Assistants.

Part of Body	Hazard	Required PPE	Notes
Respiratory System  See standard 1910.134	☐ Nuisance dust/mist ☐ Welding fumes ☐ Asbestos ☐ Pesticides (Specify) _____ ☐ Paint spray ☐ Organic vapors ☐ Acid gases ☐ Oxygen deficient/toxic or IDLH atmosphere ☐ Other	☐ Disposable dust/mist mask ☐ Welding respirator ☐ Respirator w/HEPA filter ☐ Respirator w/pesticide cartridges ☐ Respirator w/paint spray " ☐ Respirator w/organic cartridges ☐ Respirator w/acid gas " ☐ SCBA/Type C airline respirator ☐ Other	
Feet  See standard 1910.136	☐ Impact-heavy objects ☐ Compression-rolling or pinching objects/vehicles ☒ Slippery or wet surface ☐ Penetration-sharp objects ☐ Penetration-chemical ☐ Splashing-chemical ☐ Sparks or molten metal ☐ Other	☐ Steel toe safety shoes ☐ Leather boots or safety shoes w/metatarsal guards ☒ Slip resistant soles ☐ Puncture resistant soles ☐ Chemical resistant boots/covers ☐ Insulated boots or shoes ☐ Spats/molten splash guards ☐ Other	See Note!
Head  See standard 1910.135	☐ Struck by falling object ☐ Struck against fixed object ☐ Electrical-contact with exposed wires/conductors ☐ Other	☐ Hard hat ☐ Class A ☐ Class B ☐ Class C ☐ Other	
Body  See standard 1910.132	☐ Impact-flying objects ☐ Moving vehicles ☐ Danger of Drowning ☐ Penetration-sharp objects ☐ Chain saw ☐ Electrical-static discharge ☐ Hot metal or sparks ☐ Radiant heat ☐ Chemical(s) _____ ☐ Exposure to extreme cold ☐ Unprotected elevated walking/working surface ☐ Ticks and/or bees ☐ Other	☐ Long sleeves/apron/coat ☐ Traffic vest ☐ Coast Guard approved PFD ☐ Cut-resistant sleeves, wristlets ☐ Chain saw chaps/vest ☐ Static control coats/coveralls ☐ Flame-resistant jacket/pants ☐ Heat reflective clothing ☐ Lab coat or apron/sleeves ☐ Insulated jacket, hood ☐ Body harness and lanyard ☐ Long pants and sleeves ☐ Other	

CERTIFICATION: I certify that I personally performed the above Hazard Assessment on the date indicated. This document is a Certification of the Hazard Assessment.

NOTE: There are no exposures that require office duties to have toe protection during normal everyday duties.

Signed by: _____ Date 6-10-99

City of Eau Claire

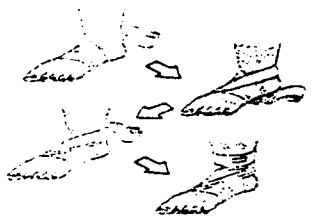
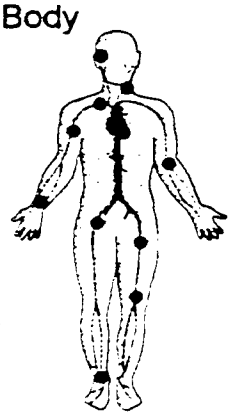
Personal Protective Equipment (PPE)
Hazard Assessment Survey and Analysis

Agency: Eau Claire Fire Department Location: All Stations
Job Classification: Administration Operation/Process: Maintenance (see below)
Person performing assessment: Koerner Title: Deputy Chief

THE FOLLOWING HAZARDS HAVE BEEN NOTED

Part of Body	Hazard	Required PPE	Notes
Hands  See standard 1910.138	☐ Penetration-sharp object ☐ Penetration-animal bites ☐ Chemical(s) _____ (Specify) _____ ☐ Extreme cold ☐ Heat ☐ Blood ☐ Electrical shock ☐ Vibration-power tools ☐ Other	☐ Leather/cut resistant gloves ☐ Leather/cut resistant gloves ☐ Chemical resistant gloves ☐ Type _____ ☐ Insulated gloves ☐ Heat/flame resistant gloves ☐ Latex or Nitrile gloves ☐ Insulated rubber gloves ☐ Type_____ ☐ Anti-Vibration gloves ☐ Other	
Eyes and Face  See standard 1910.133	☐ Impact-flying objects, chips, sand or dirt ☐ Nuisance dust ☐ UV light-welding, cutting, torch brazing or soldering ☐ Chemical-splashing liquid ☐ Chemical-irritating mists ☐ Hot sparks-grinding ☐ Splashing molten metal ☐ Other	☐ Safety glasses w/side shields ☐ Glasses/goggles w/face " ☐ Impact goggle ☐ Welding goggles/helmet shield w/safety glasses & side shields ☐ Chemical goggles/face shield ☐ Chemical splash goggles ☐ Safety glasses w/side shields ☐ Glasses/goggles w/face " ☐ Safety goggles w/face shield ☐ Other	
Ears  See standard 1910.95	☐ Exposure over 85 DBA ☐ Exposure to sparks ☐ Other _____	☐ Muffs and/or ear plugs ☐ Leather welding hood ☐ Other _____	

NOTE: Maintenance = Basic vehicle Checks.

Part of Body	Hazard	Required PPE	Notes
Respiratory System  See standard 1910.134	☐ Nuisance dust/mist ☐ Welding fumes ☐ Asbestos ☐ Pesticides (Specify) _____ ☐ Paint spray ☐ Organic vapors ☐ Acid gases ☐ Oxygen deficient/toxic or IDLH atmosphere ☐ Other	☐ Disposable dust/mist mask ☐ Welding respirator ☐ Respirator w/HEPA filter ☐ Respirator w/pesticide cartridges ☐ Respirator w/paint spray " ☐ Respirator w/organic cartridges ☐ Respirator w/acid gas " ☐ SCBA/Type C airline respirator ☐ Other	
Feet  See standard 1910.136	☒ Impact-heavy objects ☐ Compression-rolling or pinching objects/vehicles ☒ Slippery or wet surface ☐ Penetration-sharp objects ☐ Penetration-chemical ☐ Splashing-chemical ☐ Sparks or molten metal ☐ Other	☐ Steel toe safety shoes ☐ Leather boots or safety shoes w/metatarsal guards ☒ Slip resistant soles ☐ Puncture resistant soles ☐ Chemical resistant boots/covers ☐ Insulated boots or shoes ☐ Spats/molten splash guards ☐ Other	See Note!
Head  See standard 1910.135	☐ Struck by falling object ☐ Struck against fixed object ☐ Electrical-contact with exposed wires/conductors ☐ Other	☐ Hard hat ☐ Class A ☐ Class B ☐ Class C ☐ Other	
Body  See standard 1910.132	☐ Impact-flying objects ☐ Moving vehicles ☐ Danger of Drowning ☐ Penetration-sharp objects ☐ Chain saw ☐ Electrical-static discharge ☐ Hot metal or sparks ☐ Radiant heat ☐ Chemical(s) _____ ☐ Exposure to extreme cold ☐ Unprotected elevated walking/working surface ☐ Ticks and/or bees ☐ Other	☐ Long sleeves/apron/coat ☐ Traffic vest ☐ Coast Guard approved PFD ☐ Cut-resistant sleeves, wristlets ☐ Chain saw chaps/vest ☐ Static control coats/coveralls ☐ Flame-resistant jacket/pants ☐ Heat reflective clothing ☐ Lab coat or apron/sleeves ☐ Insulated jacket, hood ☐ Body harness and lanyard ☐ Long pants and sleeves ☐ Other	

CERTIFICATION: I certify that I personally performed the above Hazard Assessment on the date indicated. This document is a Certification of the Hazard Assessment.

NOTE: Exposures are minor for foot protection, these duties are seldom performed by the staff.

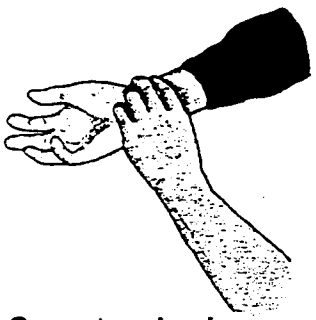
Signed by: Glenn Kan Date 6-10-99

City of Eau Claire

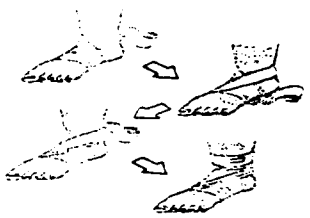
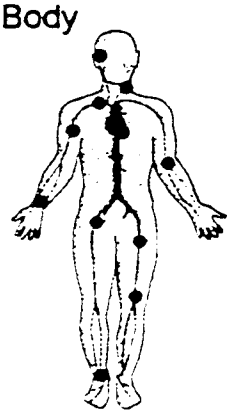
Personal Protective Equipment (PPE)
Hazard Assessment Survey and Analysis

Agency: Eau Claire Fire Department Location: All Stations
Job Classification: Administration Operation/Process: Activities (see below)
Person performing assessment: Koerner Title: Deputy Chief

THE FOLLOWING HAZARDS HAVE BEEN NOTED

Part of Body	Hazard	Required PPE	Notes
Hands  See standard 1910.138	☐ Penetration-sharp object ☐ Penetration-animal bites ☐ Chemical(s) _____ (Specify) _____ ☐ Extreme cold ☐ Heat ☐ Blood ☐ Electrical shock ☐ Vibration-power tools ☐ Other	☐ Leather/cut resistant gloves ☐ Leather/cut resistant gloves ☐ Chemical resistant gloves ☐ Type _____ ☐ Insulated gloves ☐ Heat/flame resistant gloves ☐ Latex or Nitrile gloves ☐ Insulated rubber gloves ☐ Type_____ ☐ Anti-Vibration gloves ☐ Other	
Eyes and Face  See standard 1910.133	☐ Impact-flying objects, chips, sand or dirt ☐ Nuisance dust ☐ UV light-welding, cutting, torch brazing or soldering ☐ Chemical-splashing liquid ☐ Chemical-irritating mists ☐ Hot sparks-grinding ☐ Splashing molten metal ☐ Other	☐ Safety glasses w/side shields ☐ Glasses/goggles w/face " ☐ Impact goggle ☐ Welding goggles/helmet shield w/safety glasses & side shields ☐ Chemical goggles/face shield ☐ Chemical splash goggles ☐ Safety glasses w/side shields ☐ Glasses/goggles w/face " ☐ Safety goggles w/face shield ☐ Other	
Ears  See standard 1910.95	☐ Exposure over 85 DBA ☐ Exposure to sparks ☐ Other _____	☐ Muffs and/or ear plugs ☐ Leather welding hood ☐ Other _____	

NOTE: Activities = Field Work, Inspcetion, Classroom training, meetings, command vehicle assignment, personnel contacts.

Part of Body	Hazard	Required PPE	Notes
Respiratory System  See standard 1910.134	☐ Nuisance dust/mist ☐ Welding fumes ☐ Asbestos ☐ Pesticides (Specify) _____ ☐ Paint spray ☐ Organic vapors ☐ Acid gases ☐ Oxygen deficient/toxic or IDLH atmosphere ☐ Other	☐ Disposable dust/mist mask ☐ Welding respirator ☐ Respirator w/HEPA filter ☐ Respirator w/pesticide cartridges ☐ Respirator w/paint spray " ☐ Respirator w/organic cartridges ☐ Respirator w/acid gas " ☐ SCBA/Type C airline respirator ☐ Other	
Feet  See standard 1910.136	☐ Impact-heavy objects ☐ Compression-rolling or pinching objects/vehicles ☒ Slippery or wet surface ☐ Penetration-sharp objects ☐ Penetration-chemical ☐ Splashing-chemical ☐ Sparks or molten metal ☐ Other	☐ Steel toe safety shoes ☐ Leather boots or safety shoes w/metatarsal guards ☒ Slip resistant soles ☐ Puncture resistant soles ☐ Chemical resistant boots/covers ☐ Insulated boots or shoes ☐ Spats/molten splash guards ☐ Other	See Note!
Head  See standard 1910.135	☐ Struck by falling object ☐ Struck against fixed object ☐ Electrical-contact with exposed wires/conductors ☐ Other	☐ Hard hat ☐ Class A ☐ Class B ☐ Class C ☐ Other	
Body  See standard 1910.132	☐ Impact-flying objects ☐ Moving vehicles ☐ Danger of Drowning ☐ Penetration-sharp objects ☐ Chain saw ☐ Electrical-static discharge ☐ Hot metal or sparks ☐ Radiant heat ☐ Chemical(s) _____ ☐ Exposure to extreme cold ☐ Unprotected elevated walking/working surface ☐ Ticks and/or bees ☐ Other	☐ Long sleeves/apron/coat ☐ Traffic vest ☐ Coast Guard approved PFD ☐ Cut-resistant sleeves, wristlets ☐ Chain saw chaps/vest ☐ Static control coats/coveralls ☐ Flame-resistant jacket/pants ☐ Heat reflective clothing ☐ Lab coat or apron/sleeves ☐ Insulated jacket, hood ☐ Body harness and lanyard ☐ Long pants and sleeves ☐ Other	

CERTIFICATION: I certify that I personally performed the above Hazard Assessment on the date indicated. This document is a Certification of the Hazard Assessment.

NOTE: PPE used at Emergency incidents, exposures minimal.

Signed by: _____ Date 6-10-99

City of Eau Claire

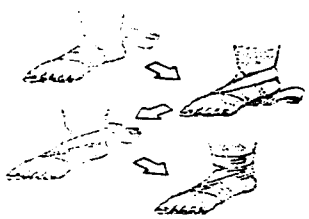
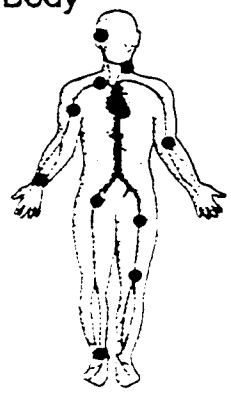
Personal Protective Equipment (PPE)
Hazard Assessment Survey and Analysis

Agency: Eau Claire Fire Department Location: Inspection Office
Job Classification: Fire Inspector Operation/Process: Office Work
Person performing assessment: Koerner Title: Deputy Chief

THE FOLLOWING HAZARDS HAVE BEEN NOTED

Part of Body	Hazard	Required PPE	Notes
Hands  See standard 1910.138	□ Penetration-sharp object □ Penetration-animal bites □ Chemical(s) _____ (Specify) _____ □ Extreme cold □ Heat □ Blood □ Electrical shock □ Vibration-power tools □ Other	□ Leather/cut resistant gloves □ Leather/cut resistant gloves □ Chemical resistant gloves □ Type _____ □ Insulated gloves □ Heat/flame resistant gloves □ Latex or Nitrile gloves □ Insulated rubber gloves □ Type_____ □ Anti-Vibration gloves □ Other	
Eyes and Face  See standard 1910.133	□ Impact-flying objects, chips, sand or dirt □ Nuisance dust □ UV light-welding, cutting, torch brazing or soldering □ Chemical-splashing liquid □ Chemical-irritating mists □ Hot sparks-grinding □ Splashing molten metal □ Other	□ Safety glasses w/side shields □ Glasses/goggles w/face " □ Impact goggle □ Welding goggles/helmet shield w/safety glasses & side shields □ Chemical goggles/face shield □ Chemical splash goggles □ Safety glasses w/side shields □ Glasses/goggles w/face " □ Safety goggles w/face shield □ Other	
Ears  See standard 1910.95	□ Exposure over 85 DBA □ Exposure to sparks □ Other _____	□ Muffs and/or ear plugs □ Leather welding hood □ Other _____	

NOTE: Paper work, Plans review, Code research.

Part of Body	Hazard	Required PPE	Notes
Respiratory System  See standard 1910.134	☐ Nuisance dust/mist ☐ Welding fumes ☐ Asbestos ☐ Pesticides (Specify) _____ ☐ Paint spray ☐ Organic vapors ☐ Acid gases ☐ Oxygen deficient/toxic or IDLH atmosphere ☐ Other	☐ Disposable dust/mist mask ☐ Welding respirator ☐ Respirator w/HEPA filter ☐ Respirator w/pesticide cartridges ☐ Respirator w/paint spray " ☐ Respirator w/organic cartridges ☐ Respirator w/acid gas " ☐ SCBA/Type C airline respirator ☐ Other	
Feet  See standard 1910.136	☐ Impact-heavy objects ☐ Compression-rolling or pinching objects/vehicles ☒ Slippery or wet surface ☐ Penetration-sharp objects ☐ Penetration-chemical ☐ Splashing-chemical ☐ Sparks or molten metal ☐ Other	☐ Steel toe safety shoes ☐ Leather boots or safety shoes w/metatarsal guards ☒ Slip resistant soles ☐ Puncture resistant soles ☐ Chemical resistant boots/covers ☐ Insulated boots or shoes ☐ Spats/molten splash guards ☐ Other	
Head  See standard 1910.135	☐ Struck by falling object ☐ Struck against fixed object ☐ Electrical-contact with exposed wires/conductors ☐ Other	☐ Hard hat ☐ Class A ☐ Class B ☐ Class C ☐ Other	
Body  See standard 1910.132	☐ Impact-flying objects ☐ Moving vehicles ☐ Danger of Drowning ☐ Penetration-sharp objects ☐ Chain saw ☐ Electrical-static discharge ☐ Hot metal or sparks ☐ Radiant heat ☐ Chemical(s) _____ ☐ Exposure to extreme cold ☐ Unprotected elevated walking/working surface ☐ Ticks and/or bees ☐ Other	☐ Long sleeves/apron/coat ☐ Traffic vest ☐ Coast Guard approved PFD ☐ Cut-resistant sleeves, wristlets ☐ Chain saw chaps/vest ☐ Static control coats/coveralls ☐ Flame-resistant jacket/pants ☐ Heat reflective clothing ☐ Lab coat or apron/sleeves ☐ Insulated jacket, hood ☐ Body harness and lanyard ☐ Long pants and sleeves ☐ Other	

CERTIFICATION: I certify that I personally performed the above Hazard Assessment on the date indicated. This document is a Certification of the Hazard Assessment.

Signed by: _____ Date 6-10-99

City of Eau Claire

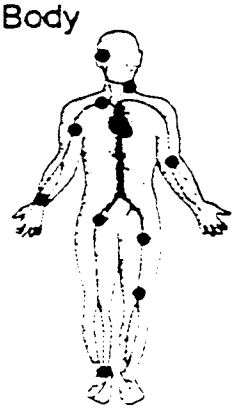
Personal Protective Equipment (PPE)
Hazard Assessment Survey and Analysis

Agency: Eau Claire Fire Department Location: All Stations -Inspectors Visit
Job Classification: Fire Inspector Operation/Process: Maintenance (see below)
Person performing assessment: Koerner Title: Deputy Chief

THE FOLLOWING HAZARDS HAVE BEEN NOTED

Part of Body	Hazard	Required PPE	Notes
Hands  See standard 1910.138	☐ Penetration-sharp object ☐ Penetration-animal bites ☐ Chemical(s) _____ (Specify) _____ ☐ Extreme cold ☐ Heat ☐ Blood ☐ Electrical shock ☐ Vibration-power tools ☐ Other	☐ Leather/cut resistant gloves ☐ Leather/cut resistant gloves ☐ Chemical resistant gloves ☐ Type _____ ☐ Insulated gloves ☐ Heat/flame resistant gloves ☐ Latex or Nitrile gloves ☐ Insulated rubber gloves ☐ Type_____ ☐ Anti-Vibration gloves ☐ Other	
Eyes and Face  See standard 1910.133	☐ Impact-flying objects, chips, sand or dirt ☐ Nuisance dust ☐ UV light-welding, cutting, torch brazing or soldering ☐ Chemical-splashing liquid ☐ Chemical-irritating mists ☐ Hot sparks-grinding ☐ Splashing molten metal ☐ Other	☐ Safety glasses w/side shields ☐ Glasses/goggles w/face " ☐ Impact goggle ☐ Welding goggles/helmet shield w/safety glasses & side shields ☐ Chemical goggles/face shield ☐ Chemical splash goggles ☐ Safety glasses w/side shields ☐ Glasses/goggles w/face " ☐ Safety goggles w/face shield ☐ Other	
Ears  See standard 1910.95	☐ Exposure over 85 DBA ☐ Exposure to sparks ☐ Other _____	☐ Muffs and/or ear plugs ☐ Leather welding hood ☐ Other _____	

NOTE: Maintenance = Fire Education Equipment checks, Vehicle Checks.

Part of Body	Hazard	Required PPE	Notes
Respiratory System  See standard 1910.134	☐ Nuisance dust/mist ☐ Welding fumes ☐ Asbestos ☐ Pesticides (Specify) _____ ☐ Paint spray ☐ Organic vapors ☐ Acid gases ☐ Oxygen deficient/toxic or IDLH atmosphere ☐ Other	☐ Disposable dust/mist mask ☐ Welding respirator ☐ Respirator w/HEPA filter ☐ Respirator w/pesticide cartridges ☐ Respirator w/paint spray " ☐ Respirator w/organic cartridges ☐ Respirator w/acid gas " ☐ SCBA/Type C airline respirator ☐ Other	.
Feet  See standard 1910.136	☒ Impact-heavy objects ☒ Compression-rolling or pinching objects/vehicles ☒ Slippery or wet surface ☐ Penetration-sharp objects ☐ Penetration-chemical ☐ Splashing-chemical ☐ Sparks or molten metal ☐ Other	☐ Steel toe safety shoes ☒ Leather boots or safety shoes w/metatarsal guards ☒ Slip resistant soles ☐ Puncture resistant soles ☐ Chemical resistant boots/covers ☐ Insulated boots or shoes ☐ Spats/molten splash guards ☐ Other	See Below!
Head  See standard 1910.135	☐ Struck by falling object ☐ Struck against fixed object ☐ Electrical-contact with exposed wires/conductors ☐ Other	☐ Hard hat ☐ Class A ☐ Class B ☐ Class C ☐ Other	
Body  See standard 1910.132	☐ Impact-flying objects ☐ Moving vehicles ☐ Danger of Drowning ☐ Penetration-sharp objects ☐ Chain saw ☐ Electrical-static discharge ☐ Hot metal or sparks ☐ Radiant heat ☐ Chemical(s) _____ ☐ Exposure to extreme cold ☐ Unprotected elevated walking/working surface ☐ Ticks and/or bees ☐ Other	☐ Long sleeves/apron/coat ☐ Traffic vest ☐ Coast Guard approved PFD ☐ Cut-resistant sleeves, wristlets ☐ Chain saw chaps/vest ☐ Static control coats/coveralls ☐ Flame-resistant jacket/pants ☐ Heat reflective clothing ☐ Lab coat or apron/sleeves ☐ Insulated jacket, hood ☐ Body harness and lanyard ☐ Long pants and sleeves ☐ Other	

CERTIFICATION: I certify that I personally performed the above Hazard Assessment on the date indicated. This document is a Certification of the Hazard Assessment.

NOTE: Vehicle checks are seldom performed by the Fire Inspectors, Exposures are minimal.

Signed by: _____ Date 6-10-99

City of Eau Claire

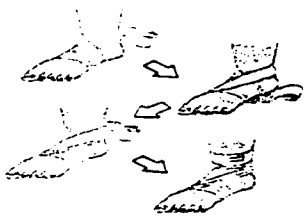
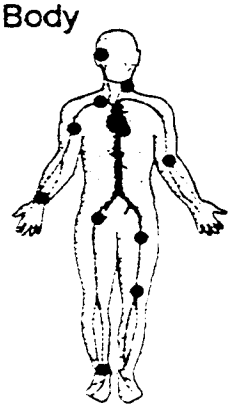
Personal Protective Equipment (PPE)
Hazard Assessment Survey and Analysis

Agency: Eau Claire Fire Department Location: All Stations & Field Work
Job Classification: Fire Inspector Operation/Process: Activities (see below)
Person performing assessment: Koerner Title: Deputy Chief

THE FOLLOWING HAZARDS HAVE BEEN NOTED

Part of Body	Hazard	Required PPE	Notes
Hands  See standard 1910.138	☐ Penetration-sharp object ☐ Penetration-animal bites ☐ Chemical(s) _____ (Specify) _____ ☐ Extreme cold ☐ Heat ☐ Blood ☐ Electrical shock ☐ Vibration-power tools ☐ Other	☐ Leather/cut resistant gloves ☐ Leather/cut resistant gloves ☐ Chemical resistant gloves ☐ Type _____ ☐ Insulated gloves ☐ Heat/flame resistant gloves ☐ Latex or Nitrile gloves ☐ Insulated rubber gloves ☐ Type_____ ☐ Anti-Vibration gloves ☐ Other	
Eyes and Face  See standard 1910.133	☐ Impact-flying objects, chips, sand or dirt ☐ Nuisance dust ☐ UV light-welding, cutting, torch brazing or soldering ☐ Chemical-splashing liquid ☐ Chemical-irritating mists ☐ Hot sparks-grinding ☐ Splashing molten metal ☐ Other	☐ Safety glasses w/side shields ☐ Glasses/goggles w/face " ☐ Impact goggle ☐ Welding goggles/helmet shield w/safety glasses & side shields ☐ Chemical goggles/face shield ☐ Chemical splash goggles ☐ Safety glasses w/side shields ☐ Glasses/goggles w/face " ☐ Safety goggles w/face shield ☐ Other	
Ears  See standard 1910.95	☐ Exposure over 85 DBA ☐ Exposure to sparks ☐ Other _____	☐ Muffs and/or ear plugs ☐ Leather welding hood ☐ Other _____	

NOTE: Activities = Inspection, Training, Fire Public Education Personnel contacts, UST/AST Storage Tank Inspections.

Part of Body	Hazard	Required PPE	Notes
Respiratory System  See standard 1910.134	☐ Nuisance dust/mist ☐ Welding fumes ☐ Asbestos ☐ Pesticides (Specify) _____ ☐ Paint spray ☐ Organic vapors ☐ Acid gases ☐ Oxygen deficient/toxic or IDLH atmosphere ☐ Other	☐ Disposable dust/mist mask ☐ Welding respirator ☐ Respirator w/HEPA filter ☐ Respirator w/pesticide cartridges ☐ Respirator w/paint spray " ☐ Respirator w/organic cartridges ☐ Respirator w/acid gas " ☐ SCBA/Type C airline respirator ☐ Other	
Feet  See standard 1910.136	☒ Impact-heavy objects ☒ Compression-rolling or pinching objects/vehicles ☒ Slippery or wet surface ☐ Penetration-sharp objects ☐ Penetration-chemical ☐ Splashing-chemical ☐ Sparks or molten metal ☐ Other	☐ Steel toe safety shoes ☒ Leather boots or safety shoes w/metatarsal guards ☒ Slip resistant soles ☒ Puncture resistant soles ☐ Chemical resistant boots/covers ☐ Insulated boots or shoes ☐ Spats/molten splash guards ☐ Other	See Below!
Head  See standard 1910.135	☐ Struck by falling object ☐ Struck against fixed object ☐ Electrical-contact with exposed wires/conductors ☐ Other	☐ Hard hat ☐ Class A ☐ Class B ☐ Class C ☐ Other	
Body  See standard 1910.132	☐ Impact-flying objects ☐ Moving vehicles ☐ Danger of Drowning ☐ Penetration-sharp objects ☐ Chain saw ☐ Electrical-static discharge ☐ Hot metal or sparks ☐ Radiant heat ☐ Chemical(s) _____ ☐ Exposure to extreme cold ☐ Unprotected elevated walking/working surface ☐ Ticks and/or bees ☐ Other	☐ Long sleeves/apron/coat ☐ Traffic vest ☐ Coast Guard approved PFD ☐ Cut-resistant sleeves, wristlets ☐ Chain saw chaps/vest ☐ Static control coats/coveralls ☐ Flame-resistant jacket/pants ☐ Heat reflective clothing ☐ Lab coat or apron/sleeves ☐ Insulated jacket, hood ☐ Body harness and lanyard ☐ Long pants and sleeves ☐ Other	

CERTIFICATION: I certify that I personally performed the above Hazard Assessment on the date indicated. This document is a Certification of the Hazard Assessment.

NOTE: Fire Inspectors shall use PPE when necessary, Exposures are minimal. Investigation work requires PPE.

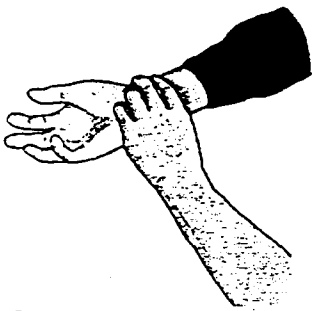
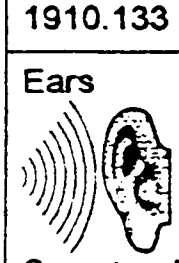
Signed by: _____ Date 6-10-99

City of Eau Claire

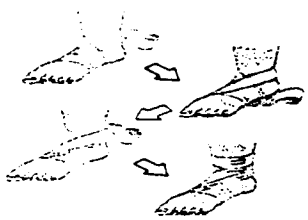
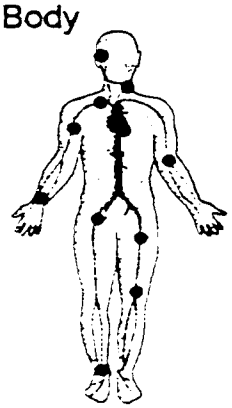
Personal Protective Equipment (PPE)
Hazard Assessment Survey and Analysis

Agency: Eau Claire Fire Department Location: All Stations
Job Classification: Line Personnel Operation/Process: Office (see below)
Person performing assessment: Koerner Title: Deputy Chief

THE FOLLOWING HAZARDS HAVE BEEN NOTED

Part of Body	Hazard	Required PPE	Notes
Hands  See standard 1910.138	☐ Penetration-sharp object ☐ Penetration-animal bites ☐ Chemical(s) _____ (Specify) _____ ☐ Extreme cold ☐ Heat ☐ Blood ☐ Electrical shock ☐ Vibration-power tools ☐ Other	☐ Leather/cut resistant gloves ☐ Leather/cut resistant gloves ☐ Chemical resistant gloves ☐ Type _____ ☐ Insulated gloves ☐ Heat/flame resistant gloves ☐ Latex or Nitrile gloves ☐ Insulated rubber gloves ☐ Type_____ ☐ Anti-Vibration gloves ☐ Other	
Eyes and Face  See standard 1910.133	☐ Impact-flying objects, chips, sand or dirt ☐ Nuisance dust ☐ UV light-welding, cutting, torch brazing or soldering ☐ Chemical-splashing liquid ☐ Chemical-irritating mists ☐ Hot sparks-grinding ☐ Splashing molten metal ☐ Other	☐ Safety glasses w/side shields ☐ Glasses/goggles w/face " ☐ Impact goggle ☐ Welding goggles/helmet shield w/safety glasses & side shields ☐ Chemical goggles/face shield ☐ Chemical splash goggles ☐ Safety glasses w/side shields ☐ Glasses/goggles w/face " ☐ Safety goggles w/face shield ☐ Other	
Ears  See standard 1910.95	☐ Exposure over 85 DBA ☐ Exposure to sparks ☐ Other _____	☐ Muffs and/or ear plugs ☐ Leather welding hood ☐ Other _____	

NOTE: Office = Station Chores, Office work, Classroom training.

Part of Body	Hazard	Required PPE	Notes
Respiratory System  See standard 1910.134	☐ Nuisance dust/mist ☐ Welding fumes ☐ Asbestos ☐ Pesticides (Specify) _____ ☐ Paint spray ☐ Organic vapors ☐ Acid gases ☐ Oxygen deficient/toxic or IDLH atmosphere ☐ Other	☐ Disposable dust/mist mask ☐ Welding respirator ☐ Respirator w/HEPA filter ☐ Respirator w/pesticide cartridges ☐ Respirator w/paint spray " ☐ Respirator w/organic cartridges ☐ Respirator w/acid gas " ☐ SCBA/Type C airline respirator ☐ Other	
Feet  See standard 1910.136	☐ Impact-heavy objects ☐ Compression-rolling or pinching objects/vehicles ☒ Slippery or wet surface ☐ Penetration-sharp objects ☐ Penetration-chemical ☐ Splashing-chemical ☐ Sparks or molten metal ☐ Other	☐ Steel toe safety shoes ☐ Leather boots or safety shoes w/metatarsal guards ☒ Slip resistant soles ☐ Puncture resistant soles ☐ Chemical resistant boots/covers ☐ Insulated boots or shoes ☐ Spats/molten splash guards ☐ Other	See Note!
Head  See standard 1910.135	☐ Struck by falling object ☐ Struck against fixed object ☐ Electrical-contact with exposed wires/conductors ☐ Other	☐ Hard hat ☐ Class A ☐ Class B ☐ Class C ☐ Other	
Body  See standard 1910.132	☐ Impact-flying objects ☐ Moving vehicles ☐ Danger of Drowning ☐ Penetration-sharp objects ☐ Chain saw ☐ Electrical-static discharge ☐ Hot metal or sparks ☐ Radiant heat ☐ Chemical(s) _____ ☐ Exposure to extreme cold ☐ Unprotected elevated walking/working surface ☐ Ticks and/or bees ☐ Other	☐ Long sleeves/apron/coat ☐ Traffic vest ☐ Coast Guard approved PFD ☐ Cut-resistant sleeves, wristlets ☐ Chain saw chaps/vest ☐ Static control coats/coveralls ☐ Flame-resistant jacket/pants ☐ Heat reflective clothing ☐ Lab coat or apron/sleeves ☐ Insulated jacket, hood ☐ Body harness and lanyard ☐ Long pants and sleeves ☐ Other	

CERTIFICATION: I certify that I personally performed the above Hazard Assessment on the date indicated. This document is a Certification of the Hazard Assessment.

NOTE: Foot Exposures are Minimal.

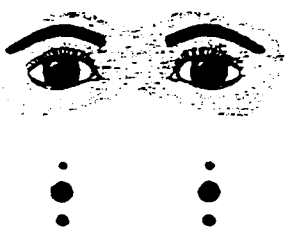
Signed by: _____ Date 6-10-99

City of Eau Claire

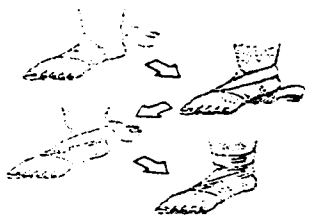
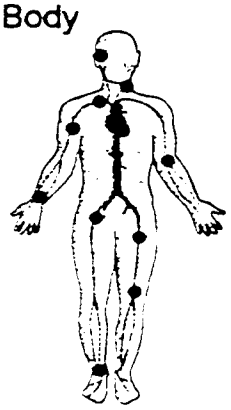
Personal Protective Equipment (PPE)
Hazard Assessment Survey and Analysis

Agency: Eau Claire Fire Department Location: All Stations
Job Classification: Line Personnel Operation/Process: Maintenance (see below)
Person performing assessment: Koerner Title: Deputy Chief

THE FOLLOWING HAZARDS HAVE BEEN NOTED

Part of Body	Hazard	Required PPE	Notes
Hands  See standard 1910.138	□ Penetration-sharp object □ Penetration-animal bites □ Chemical(s) _____ (Specify) _____ □ Extreme cold □ Heat □ Blood □ Electrical shock □ Vibration-power tools □ Other	□ Leather/cut resistant gloves □ Leather/cut resistant gloves □ Chemical resistant gloves □ Type _____ □ Insulated gloves □ Heat/flame resistant gloves □ Latex or Nitrile gloves □ Insulated rubber gloves □ Type_____ □ Anti-Vibration gloves □ Other	
Eyes and Face  See standard 1910.133	□ Impact-flying objects, chips, sand or dirt □ Nuisance dust □ UV light-welding, cutting, torch brazing or soldering □ Chemical-splashing liquid □ Chemical-irritating mists □ Hot sparks-grinding □ Splashing molten metal □ Other	□ Safety glasses w/side shields □ Glasses/goggles w/face " □ Impact goggle □ Welding goggles/helmet shield w/safety glasses & side shields □ Chemical goggles/face shield □ Chemical splash goggles □ Safety glasses w/side shields □ Glasses/goggles w/face " □ Safety goggles w/face shield □ Other	
Ears  See standard 1910.95	□ Exposure over 85 DBA □ Exposure to sparks □ Other _____	□ Muffs and/or ear plugs □ Leather welding hood □ Other _____	

NOTE: Maintenance = Vehicle checks, Equipment checks, Station work (mowing, snow blowing, cleaning, etc.)

Part of Body	Hazard	Required PPE	Notes
Respiratory System  See standard 1910.134	☐ Nuisance dust/mist ☐ Welding fumes ☐ Asbestos ☐ Pesticides (Specify) _____ ☐ Paint spray ☐ Organic vapors ☐ Acid gases ☐ Oxygen deficient/toxic or IDLH atmosphere ☐ Other	☐ Disposable dust/mist mask ☐ Welding respirator ☐ Respirator w/HEPA filter ☐ Respirator w/pesticide cartridges ☐ Respirator w/paint spray " ☐ Respirator w/organic cartridges ☐ Respirator w/acid gas " ☐ SCBA/Type C airline respirator ☐ Other	
Feet  See standard 1910.136	☒ Impact-heavy objects ☒ Compression-rolling or pinching objects/vehicles ☒ Slippery or wet surface ☐ Penetration-sharp objects ☐ Penetration-chemical ☐ Splashing-chemical ☐ Sparks or molten metal ☐ Other	☐ Steel toe safety shoes ☒ Leather boots or safety shoes w/metatarsal guards ☒ Slip resistant soles ☐ Puncture resistant soles ☐ Chemical resistant boots/covers ☐ Insulated boots or shoes ☐ Spats/molten splash guards ☒ Other Toe Guards	See Note!
Head  See standard 1910.135	☐ Struck by falling object ☐ Struck against fixed object ☐ Electrical-contact with exposed wires/conductors ☐ Other	☐ Hard hat ☐ Class A ☐ Class B ☐ Class C ☐ Other	
Body  See standard 1910.132	☐ Impact-flying objects ☐ Moving vehicles ☐ Danger of Drowning ☐ Penetration-sharp objects ☐ Chain saw ☐ Electrical-static discharge ☐ Hot metal or sparks ☐ Radiant heat ☐ Chemical(s) _____ ☐ Exposure to extreme cold ☐ Unprotected elevated walking/working surface ☐ Ticks and/or bees ☐ Other	☐ Long sleeves/apron/coat ☐ Traffic vest ☐ Coast Guard approved PFD ☐ Cut-resistant sleeves, wristlets ☐ Chain saw chaps/vest ☐ Static control coats/coveralls ☐ Flame-resistant jacket/pants ☐ Heat reflective clothing ☐ Lab coat or apron/sleeves ☐ Insulated jacket, hood ☐ Body harness and lanyard ☐ Long pants and sleeves ☐ Other	

CERTIFICATION: I certify that I personally performed the above Hazard Assessment on the date indicated. This document is a Certification of the Hazard Assessment.

NOTE: Tools may drop, Vehicles may roll, Floors may be slippery, Overall - Firefighters use PPE for any significant exposure to toes.

Signed by: _____ Date 6-10-99

City of Eau Claire

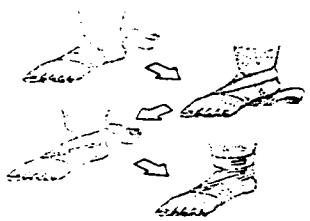
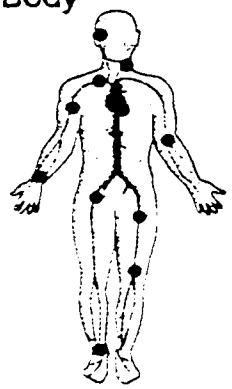
Personal Protective Equipment (PPE)
Hazard Assessment Survey and Analysis

Agency: Eau Claire Fire Department Location: All Stations
Job Classification: Line Personnel Operation/Process: Activities (see below)
Person performing assessment: Koerner Title: Deputy Chief

THE FOLLOWING HAZARDS HAVE BEEN NOTED

Part of Body	Hazard	Required PPE	Notes
Hands  See standard 1910.138	☐ Penetration-sharp object ☐ Penetration-animal bites ☐ Chemical(s) _____ (Specify) _____ ☐ Extreme cold ☐ Heat ☐ Blood ☐ Electrical shock ☐ Vibration-power tools ☐ Other	☐ Leather/cut resistant gloves ☐ Leather/cut resistant gloves ☐ Chemical resistant gloves ☐ Type _____ ☐ Insulated gloves ☐ Heat/flame resistant gloves ☐ Latex or Nitrile gloves ☐ Insulated rubber gloves ☐ Type_____ ☐ Anti-Vibration gloves ☐ Other	
Eyes and Face  See standard 1910.133	☐ Impact-flying objects, chips, sand or dirt ☐ Nuisance dust ☐ UV light-welding, cutting, torch brazing or soldering ☐ Chemical-splashing liquid ☐ Chemical-irritating mists ☐ Hot sparks-grinding ☐ Splashing molten metal ☐ Other	☐ Safety glasses w/side shields ☐ Glasses/goggles w/face " ☐ Impact goggle ☐ Welding goggles/helmet shield w/safety glasses & side shields ☐ Chemical goggles/face shield ☐ Chemical splash goggles ☐ Safety glasses w/side shields ☐ Glasses/goggles w/face " ☐ Safety goggles w/face shield ☐ Other	
Ears  See standard 1910.95	☐ Exposure over 85 DBA ☐ Exposure to sparks ☐ Other _____	☐ Muffs and/or ear plugs ☐ Leather welding hood ☐ Other _____	

NOTE: Activities = Fire Prevention Public Education, Company Fire Inspections, Preplanning.

Part of Body	Hazard	Required PPE	Notes
Respiratory System  See standard 1910.134	☐ Nuisance dust/mist ☐ Welding fumes ☐ Asbestos ☐ Pesticides (Specify) _____ ☐ Paint spray ☐ Organic vapors ☐ Acid gases ☐ Oxygen deficient/toxic or IDLH atmosphere ☐ Other	☐ Disposable dust/mist mask ☐ Welding respirator ☐ Respirator w/HEPA filter ☐ Respirator w/pesticide cartridges ☐ Respirator w/paint spray " ☐ Respirator w/organic cartridges ☐ Respirator w/acid gas " ☐ SCBA/Type C airline respirator ☐ Other	
Feet  See standard 1910.136	☒ Impact-heavy objects ☒ Compression-rolling or pinching objects/vehicles ☒ Slippery or wet surface ☐ Penetration-sharp objects ☐ Penetration-chemical ☐ Splashing-chemical ☐ Sparks or molten metal ☒ Other Various/location	☐ Steel toe safety shoes ☒ Leather boots or safety shoes w/metatarsal guards ☒ Slip resistant soles ☒ Puncture resistant soles ☐ Chemical resistant boots/covers ☐ Insulated boots or shoes ☐ Spats/molten splash guards ☐ Other	See Note!
Head  See standard 1910.135	☐ Struck by falling object ☐ Struck against fixed object ☐ Electrical-contact with exposed wires/conductors ☐ Other	☐ Hard hat ☐ Class A ☐ Class B ☐ Class C ☐ Other	
Body  See standard 1910.132	☐ Impact-flying objects ☐ Moving vehicles ☐ Danger of Drowning ☐ Penetration-sharp objects ☐ Chain saw ☐ Electrical-static discharge ☐ Hot metal or sparks ☐ Radiant heat ☐ Chemical(s) _____ ☐ Exposure to extreme cold ☐ Unprotected elevated walking/working surface ☐ Ticks and/or bees ☐ Other	☐ Long sleeves/apron/coat ☐ Traffic vest ☐ Coast Guard approved PFD ☐ Cut-resistant sleeves, wristlets ☐ Chain saw chaps/vest ☐ Static control coats/coveralls ☐ Flame-resistant jacket/pants ☐ Heat reflective clothing ☐ Lab coat or apron/sleeves ☐ Insulated jacket, hood ☐ Body harness and lanyard ☐ Long pants and sleeves ☐ Other	

CERTIFICATION: I certify that I personally performed the above Hazard Assessment on the date indicated. This document is a Certification of the Hazard Assessment.

NOTE: While conducting Fire Inspection, personnel are expected to PPE supplied by the department if conditions warrant.

Signed by: _____ Date 6-10-99

APPENDIX B

EXECUTIVE FIRE OFFICER PHONE QUESTIONNAIRE

(30 Larger Wisconsin Fire Departments, State of Wisconsin phone survey conducted during the first week of June 1999).

1. How many uniformed personnel are in your department?
   A. 10 - 49
   B. 50 - 99
   C. 100 - 299
   D. Over 300

2. Does your Fire Department require Safety-Toe Shoes for daily station wear?
   A. Yes (Please go to question 3)
   B. No (Please go to question 9)
   C. Other (Explain)

3. Does your department have Standard Operating Guidelines or Department Policy for the wearing of these safety-toe duty shoes?
   A. Yes (please attach copy to this survey)
   B. No

4. Does your department require the safety-toe duty shoe to be ANSI Z41 PT91 I/75 C/75 approved?
   A. Yes
   B. No

5. What is the material the safety-toe made of?
   A. Steel
   B. Fiberglass
   C. Other _____

6. What standards does your department utilize to mandate safety-toe duty shoes? Explain.

7. What brought on this Safety-toe requirement for your department? Explain.

EFOP Phone Questionnaire, page 2

8. With safety-toe shoes, has there been any toe or foot injuries in the past 5 years?

   A. Yes
   B. No

Please continue the survey at question # 12.
****

9. With no safety shoe policy in place, has there been any toe injuries to your firefighters in the past 5 years?
   A. Yes; Explain, how many situations occurred and a brief cause of the accident, and any cost associated with the injury?
   B. No

10. Did your department ever have a safety-toe duty shoe requirement for your daily work uniform shoes?
   A. Yes, please explain why the policy dissolved.
   B. No

11. Did your department experience any cost savings associated with the no safety toe shoe requirement?
   A. Yes, Please explain.
   B. No
   C. N/A

12. With no safety-toe shoe requirement, what type of shoe is required?
   A. Plain toe, black.
   B. Plain toe, shinable, black.
   C. Approved, plain toe, shinable, black.
   D. Other

13. Does your department require the same shoe style for the firefighters (line personnel) and staff personnel (administration)?
   A. Yes
   B. No

14. Does your department allow personnel to mix styles (manufacturers) and shoes vs. boots?
   A. Yes
   B. No, Please explain why!

EFOP Phone Questionnaire, page 3

15. Does your department buy your firefighters duty shoes?
    A. No - Clothing Allowance
    B. Yes
    C. No
    D. Other

16. How much money is allowed for the clothing allowance purchase? _____
    A. $100-$200
    B. $201-$300
    C. $301-$400
    D. $401-over
    E. Other

17. Do you order these shoes as a department purchase or allow the firefighter to purchase the shoes themselves?
    A. Department Purchase
    B. Individual Purchase

18. Has your department Identified a need for slip resistance in the current duty shoe used at your department?
    A. Yes (Explain)
    B. No (Explain)

19. Has your department completed a personal protective equipment hazard assessment survey and analysis, under 1910.136?

    A. Yes
    B. No
    C. Unknown

20. Any additional thoughts or concerns relating to the safety-toe duty shoe.

APPENDIX C

EXECUTIVE FIRE OFFICER PHONE QUESTIONNAIRE

(30 Larger Wisconsin Fire Departments, State of Wisconsin phone survey conducted during the first week of June 1999).

1. How many uniformed personnel are in your department?
   - A. 10 - 49 (13)
   - B. 50 - 99 (11)
   - C. 100 - 299 (5)
   - D. Over 300 (1)

2. Does your Fire Department require Safety-Toe Shoes for daily station wear?
   - A. Yes (Please go to question 3) (6)
   - B. No (Please go to question 9) (21)
   - C. Other (Explain) (3)

*** 1) Chief, Asst. Chief, Inspectors required. 2) Mechanics Only X 2.*

3. Does your department have Standard Operating Guidelines or Department Policy for the wearing of these safety-toe duty shoes?
   - A. Yes (please attach copy to this survey) (3)
   - B. No (3)

4. Does your department require the safety-toe duty shoe to be ANSI Z41 PT91 I/75 C/75 approved?
   - A. Yes (4)
   - B. No (2)

5. What is the material the safety-toe made of?
   - A. Steel (6)
   - B. Fiberglass
   - C. Other _____

6. What standards does your department utilize to mandate safety-toe duty shoes? Explain.

*** As state: 1) OSHA & Environment. 2) No standards. 3) Department wishes. 4) NFPA 1500. 5) Not sure. 6) Tradition.*

7. What brought on this Safety-toe requirement for your department? Explain.

*** As stated: 1) Unknown. 2) Tradition. 3) Reactionary Management. 4) Always been that way. 5) New Chief.*

EFOP Phone Questionnaire, page 2

8. With safety-toe shoes, has there been any toe or foot injuries in the past 5 years?

A. Yes
B. No (6)

Please continue the survey at question # 12.
****

9. With no safety shoe policy in place, has there been any toe injuries to your firefighters in the past 5 years?
A. Yes; Explain, how many situations occurred and a brief cause of the accident, and any cost associated with the injury? (2)
*** As stated: 1) Portable pump dropped on foot, loss time injury of 9 work days. 2) Dropped hose coupling during training session, no loss time.*
B. No (28)

10. Did your department ever have a safety-toe duty shoe requirement for your daily work uniform shoes?
A. Yes, please explain why the policy dissolved.
B. No (30)

11. Did your department experience any cost savings associated with the no safety toe shoe requirement?
A. Yes, Please explain. (1) ** *More flexible spending.*
B. No
C. N/A (29)

12. With no safety-toe shoe requirement, what type of shoe is required?
A. Plain toe, black. (5)
B. Plain toe, shinable, black. (14)
C. Approved, plain toe, shinable, black. (11)
D. Other

13. Does your department require the same shoe style for the firefighters (line personnel) and staff personnel (administration)?
A. Yes (7)
B. No (23)

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14. Does your department allow personnel to mix styles (manufacturers) and shoes vs. boots?
    A. Yes (27)
    B. No, Please explain why! (3) ** *Oxford height only.*

15. Does your department buy your firefighters duty shoes?
    A. No - Clothing Allowance (25)
    B. Yes (4)
    C. No (1)
    D. Other

16. How much money is allowed for the clothing allowance purchase? _____
    A. $100-$200 (4)
    B. $201-$300 (10)
    C. $301-$400 (9)
    D. $401-over (2)
    E. N/A (5)
    F. Other *** *1) Mechanics have separate shoe allowance. 2) department adds extra money to the mechanics allowance.*

17. Do you order these shoes as a department purchase or allow the firefighter to purchase the shoes themselves?
    A. Department Purchase (2)
    B. Individual Purchase (27)
    C. Either (1)

18. Has your department Identified a need for slip resistance in the current duty shoe used at your department?
    A. Yes (Explain) (7) *** *1) Apparatus floor fix and treated. 2) Encourage non-skid floor.*
    B. No (Explain) (23)

19. Has your department completed a personal protective equipment hazard assessment survey and analysis, under 1910.136?

    A. Yes (12)
    B. No (16)
    C. Unknown (2)

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20. Any additional thoughts or concerns relating to the safety-toe duty shoe.

*** *As stated: 1) Utilize toe guards for situations that warrant toe protection. 2) follow IHLR 30, and NFPA 1500.*